

REMARKS

STATUS OF CLAIMS:

Claims 1-22 are pending in the application. Claims 1-16 and 20-22 are rejected. Claims 17-19 are objected to, but would be allowable if rewritten in independent form.

35 U.S.C. § 103:

Claims 1-3, 5, 9-14, 20-22 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rezanka (U.S. Patent 5,757,407) in view of Brinkly (U.S. Patent 6,397,488) and Teraoka et al. (U.S. Patent 6,652,084). Rezanka is newly applied in the present Action.

The Examiner relies on Rezanka for allegedly disclosing an image forming means 36 and a fixing means 42. The Examiner further asserts that the alleged fixing means includes a section that heats and fixes the image, as shown in Fig. 1 Rezanka. The Examiner acknowledges that Rezanka does not teach the recited collecting means, removing means and shielding means. Therefore, the Examiner attempts to rely on Brinkly and asserts that Brinkly discloses a collecting means 98, along with a removing means 102. The Examiner further asserts that the alleged collecting means 98 of Brinkly includes shield means (as part of element 80) and also includes suction means represented by element 88.

Lastly, the Examiner relies on Teraoka for allegedly teaching ink containing a solvent and color particles dispersed within the solvent (see Teraoka, col. 6, lines 40-67.)

Brinkly explicitly teaches to provide an enclosure 80 that is adapted to create a sealed environment around a medium 23 (see Figure 2 of Brinkly.) Brinkly teaches that this sealed environment lowers the pressure therein to reduce the amount of energy needed to heat the print medium 23 and make it easier for a phase change to occur in ink on the medium 23. In particular, Brinkly discloses that:

"As the pressure within the sealed environment 98 is lowered in accordance with the present invention, the amount of heat energy from the heating devices 60, 62, 64 and 66 required to raise the vapor pressure of the

liquid solvent to the point of face change is less than the amount of heat energy required if the pressure were not lowered."

(See col. 5, lines 56-64 of Brinkly).

On the other hand, Rezanka teaches to provide a dryer 42 that applies heat to a recording sheet 14, as shown in Fig. 1. The main teaching of Rezanka involves passing the recording sheet 14 back and forth beneath the dryer 42 to dry ink on the recording sheet 14.

I. NO MOTIVATION TO COMBINE

There are least four reasons why there is no motivation to combine the references. First, Brinkly expressly teaches to use a sealed environment to lower the pressure within the enclosure 80 while the print medium 23 is positioned in the container. On the other hand, the print medium 14 of Rezanka is taught to be moved back and forth beneath the dryer. Therefore, if the container 80 were provided over the dryer 40 of Rezanka, the print medium 14 of Rezanka would have its movement limited by the container 80 and potentially bump into the opposing sides of the container 80.

Second, Brinkly does not disclose that its pressure seal would be effective if the underlying belt (i.e., 20 of Rezanka) were moved back and forth. As a skilled artisan would appreciate, such movement would disrupt the seal of the enclosure 80.

Third, the drier 42 of Rezanka is different from the heating devices 60, 62, 64 and 66 of Brinkly. In particular, the drier 42 is positioned above the belt 20, while the heating devices 60, 62, 64 and 66 are positioned below the belt 32. Therefore, if the container 80 of Brinkly were placed over the dryer 42, the heat transfer due to convection (from the dryer 42) would be disrupted due to the upward flow of air caused by container's 80 suction (see air flow arrows in Figure 2 of Brinkly). The heat would not be transferred to the print medium 23, but would be sucked upward and away from the medium. Whereas, the heat flowing from the heating devices 60, 62, 64 and 66 of Brinkly naturally flows upward past the print medium. In other words, there is no teaching or suggestion that one skilled in the art would use Brinkly's suction container 80 in the differently designed system of Rezanka.

Fourth, Brinkly expressly teaches that low pressure in the container 80 is used so that low energy heating devices can be utilized. Thus, less heat energy is required and the cost of operation is lowered (see col. 5, lines 64-65 of Brinkly). *On the other hand*, Rezanka teaches a conventional dryer 42 which is designed to effectively dry the ink without any additional heating factors. Therefore, if the container 80 were applied around the dryer 42 and the pressure therein were reduced, the configuration would produce much more heating power than necessary to dry the ink 14. In other words, the combination of Brinkly's container 80 and the dryer 42 of Rezanka would essentially provide "overkill" in regard to drying the ink on the recording sheet 14.

Moreover, in Brinkly, the fixing means and the collecting means are divided, such that the fixing operation is performed from an opposite side of the image. The present inventor overcame deficiencies in the prior art by placing at least part of the fixing means within the collecting means. It is the present inventor who conceived the unique combination of features found in claims 1 and 12. It should be apparent, based on at least the above comments, why the prior art does not teach or suggest each feature recited in claims 1 and 12.

Accordingly, claims 1 and 12 are deemed patentable over Rezanka, Brinkly and Teraoka, such that the rejection under 35 U.S.C. § 103(a) should be withdrawn. The rejection of claims 2, 3, 5, 9-11, 13, 14, 16, and 20-22 should also be withdrawn at least due to these claims depending from claims 1 and 12.

Claims 4 and 15

Claims 4 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brinkly, Teraoka, and further in view of Wotton et al. (U.S. Patent 6,390,618 [hereinafter "Wotton"]).

The Examiner, relies on the fan 301 of Wotton, shown in Fig. 4. As an initial matter, Applicant respectfully submits that there is no motivation to combine the alleged blowing means of Wotton with that of Brinkly. The enclosure 80 of Brinkly is used to form a "*sealed environment*," as noted in col. 5, lines 24-26. On the other hand, the relied upon fan 301 of Wotton is disposed in an ambient area and is not confined. Therefore, one skilled in the art

would not combine the fan 301 of Wotton with Brinkly because it would not provide any benefit. Instead, the enclosure of Brinkly would block any air provided by the fan, so as to render its air flow useless. Further, there is no motivation to put the fan 301 of Wotton inside the enclosure 80 of Brinkly because air flow is already generated in the enclosure 80.

Applicant also points out that any combination that takes in air from outside the enclosure 80 of Brinkly to the inside of the enclosure 80, by using the blowing means of Wotton, *teaches away* from the disclosure of Brinkly. This is because the inside pressure of the enclosure 80 of Brinkly should be reduced in comparison to its surrounding (see col. 5, lines 27-33; col. 6, lines 12-15; and step 126 in Figure 3).

Therefore, claims 4 and 15 are deemed patentable over the applied references at least by virtue of their respective dependencies upon claims 1 and 12, in addition to the lack of motivation to combine the teachings of Brinkly and Wotton.

Claims 6-8

Claims 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brinkly, in view of Teraoka and further in view of Lin (U.S. Patent 5,764,263).

The Examiner acknowledges that Brinkly and Teraoka fail to teach or suggest preheating means provided between the image forming means and the fixing means. The Examiner relies on Lin for allegedly teaching this feature. Applicant submits that claims 6-8 are patentable over the applied references at least by virtue of their respective dependencies upon claim 1.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Response Under 37 C.F.R. §1.116
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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